Name: Date:

PCW_09_22 Coordinate transformations v0

Question 1

Consider the two functions f and g, where g is defined as a transformation of f:

$$g[x] \;=\; \frac{f[8x-7]+6}{2}$$

For point (a, b) on curve f there is a corresponding point on the curve g. Write the coordinate transformation.

$$(a, b) \rightarrow \left(\frac{a+7}{8}\;,\;\frac{b+6}{2}\right)$$

Question 2

Consider the two functions f and g, where g is defined as a transformation of f:

$$g[x] \;=\; 6 \cdot f\left[\frac{x+8}{3}\right] - 9$$

For point (a, b) on curve f there is a corresponding point on the curve g. Write the coordinate transformation.

$$(a, b) \rightarrow (3a-8\;,\;6b-9)$$

Question 3

Consider the two functions f and g, where g is defined as a transformation of f:

$$g[x] \;=\; \frac{f[2\,(x+7)]}{8} + 3$$

For point (a, b) on curve f there is a corresponding point on the curve g. Write the coordinate transformation.

$$(a, b) \rightarrow \left(\frac{a}{2}-7\;,\;\frac{b}{8}+3\right)$$

PCW_09_22 Coordinate transformations v0

Question 4

Consider the two functions f and g, where g is defined as a transformation of f:

$$g[x] \;=\; 2 \cdot (f[6\,(x-7)] + 3)$$

For point (a, b) on curve f there is a corresponding point on the curve g. Write the coordinate transformation.

$$(a, b) \to \left(\frac{a}{6} + 7\ ,\ 2\,(b+3)\right)$$

Question 5

Consider the two functions f and g, where g is defined as a transformation of f:

$$g[x] \;=\; 3 \cdot f[4x + 7] + 8$$

For point (a, b) on curve f there is a corresponding point on the curve g. Write the coordinate transformation.

$$(a, b) \to \left(\frac{a-7}{4}\ ,\ 3b+8\right)$$

Question 6

Consider the two functions f and g, where g is defined as a transformation of f:

$$g[x] \;=\; \frac{f\left[\frac{x}{7} - 6\right]}{5} - 3$$

For point (a, b) on curve f there is a corresponding point on the curve g. Write the coordinate transformation.

$$(a, b) \to \left(7\,(a+6)\ ,\ \frac{b}{5} - 3\right)$$